

WHAT IS CLAIMED IS:

- 1 1. A method for forming a three-dimensional polymeric
2 structure, the method comprising:
3 providing at least one paint layer;
4 providing a bonding layer coupled to the at least one paint
5 layer to form an insert having a bonding surface provided by the bonding
6 layer;
7 providing a mold having a hollow interior bounded by an
8 interior surface;
9 positioning the insert within the interior along a portion of
10 the interior surface;
11 depositing at least one charge of thermoplastic material into
12 the interior;
13 heating the interior while rotating and rocking the mold,
14 whereby the thermoplastic material melts and is deposited against the
15 interior surface and the bonding surface of the insert to form a three-
16 dimensional structure within the interior; and
17 removing the three-dimensional structure from the interior of
18 the mold.
- 1 2. The method of claim 1, wherein the mold has a parting line
2 formed by opposing mold edges and wherein a portion of the insert is
3 positioned between the opposing mold edges.
- 1 3. The method of claim 2, wherein at least one of the opposing
2 mold edges is insulated.
- 1 4. The method of claim 3, wherein at least one of the opposing
2 mold edges is insulated by a removable insulating layer positioned over
3 the at least one opposing mold edge.

1 5. The method of claim 4, wherein an insulating tape is applied
2 to at least one of the opposing mold edges.

1 6. The method of claim 1 including supplying pressurized gas to
2 the interior while rotating and rocking the mold.

1 7. The method of claim 6 including maintaining a pressure of at
2 least about five pounds per square inch within the interior.

1 8. The method of claim 6 including maintaining a pressure of
2 between about five pounds per square inch and about 16 pounds per
3 square inch in the interior.

1 9. The method of claim 6 including:
2 sensing gas pressure within the interior; and
3 selectively venting gas from the interior based upon the
4 sensed gas pressure.

1 10. The method of claim 1 including:
2 sensing gas pressure within the interior; and
3 selectively venting gas from the interior based upon the
4 sensed gas pressure.

1 11. The method of claim 1 including venting gas from the interior
2 at a rate such that gas pressure within the interior is large enough to
3 maintain the insert in position along the portion of the interior surface and
4 small enough so as to preserve integrity of the mold.

1 12. The method of claim 1 including applying a vacuum against
2 the insert to maintain the insert in position along the portion of the interior
3 surface.

1 13. The method of claim 1 including providing a translucent layer
2 over the at least one paint layer, wherein the at least one paint layer is
3 between the translucent layer and the bonding layer.

1 14. The method of claim 1 including providing an olefinic layer
2 between the paint layer and the bonding layer.

1 15. The method of claim 14, wherein the olefinic layer is a
2 reactive cross link adhesive with a polyolefin.

1 16. The method of claim 14, wherein the olefinic layer has a
2 thickness of less than about 0.2 mils.

1 17. The method of claim 1, wherein the bonding layer has a
2 thickness of at least about 2 mils.

1 18. The method of claim 1, wherein the bonding layer includes
2 polyethylene.

1 19. The method of claim 1, wherein the at least one paint coat
2 includes PVDF.

1 20. The method of claim 1 including providing a translucent layer
2 including PVDF over the at least one paint layer, wherein the at least one
3 paint layer is between the translucent layer and the bonding layer.

1 21. The method of claim 1, wherein the at least one paint layer
2 includes a backing color and at least one additional color distinct from the
3 backing color.

1 22. The method of claim 21, wherein the at least one additional
2 distinct color is provided in a plurality of shapes.

1 23. The method of claim 21, wherein the plurality of shapes are
2 distinct from one another.

1 24. The method of claim 23, wherein the plurality of shapes are
2 in the shape of environmental vegetation.

1 25. The method of claim 1, wherein the mold interior is in the
2 shape of a watercraft.

1 26. A method for forming a three-dimensional polymeric
2 structure, the method comprising:

3 providing at least one paint layer coupled to a bonding layer
4 so as to form an insert, the insert having a bonding surface provided by
5 the bonding layer;

6 providing a mold having a hollow interior bounded by an
7 interior surface, the mold having a parting line formed by opposing mold
8 edges;

9 positioning the insert within the interior along a portion of
10 the interior surface with a portion of the insert positioned between the
11 opposing mold edges;

12 maintaining the opposing mold edges at a temperature less
13 than the temperature of the remaining interior surface of the mold;

14 sensing gas pressure in the interior;

15 selectively exhausting and supplying gas from and into the
16 interior based upon the sensed gas pressure to maintain the insert in
17 position along the interior surface;

18 depositing at least one charge of polymeric material into the
19 interior;

20 rotating and rocking the mold while the polymeric material is
21 in a bondable condition to deposit the polymeric material against the

22 interior surface of the mold and against the insert to form a three-
23 dimensional structure within the interior; and
24 removing the three-dimensional structure from the interior of
25 the mold.

1 27. A method for forming a three-dimensional polymeric
2 structure, the method comprising:
3 providing a mold having a hollow interior bounded by an
4 interior surface;
5 positioning an insert within the interior along a portion of the
6 interior surface;
7 depositing at least one charge of polymeric material in the
8 interior;
9 rotating and rocking the mold while the polymeric material is
10 in a bondable condition, to deposit the polymeric material against the
11 interior surface of the mold and against the insert from a three-
12 dimensional structure within the interior; and
13 maintaining gas pressure within the interior high enough to
14 maintain the insert in position along the interior surface and low enough
15 so as to preserve integrity of the mold.

1 28. A method for forming a three-dimensional polymeric
2 structure, the method comprising:
3 providing a mold having a hollow interior bounded by an
4 interior surface, the mold having a part line formed by opposing mold
5 edges;
6 positioning an insert within the interior along a portion of the
7 interior surface with a portion of the insert extending between the
8 opposing mold edges;
9 depositing at least one charge of polymeric material into the
10 interior;

11 rotating and rocking the mold while the polymeric material is
12 in a bondable condition to deposit the polymeric material against the
13 interior surface of the mold and against the insert to form a three-
14 dimensional structure within the interior; and
15 removing the three-dimensional structure from the interior of
16 the mold.

1 29. The method of claim 28, wherein the polymeric material is a
2 thermoplastic material and wherein the interior is heated to melt the
3 thermoplastic material into a bondable condition.

1 30. The method of claim 28 including maintaining at least one of
2 the opposing mold edges at a temperature less than the temperature of
3 the remaining interior surface of the mold while the mold is rotating and
4 rocking.

1 31. The method of claim 30 including insulating at least one of
2 the opposing mold edges.

1 32. The method of claim 30 including cooling at least one of the
2 opposing mold edges.